

The Knowledge Bank at The Ohio State University

Ohio State Engineer

Title: Front Matter

Issue Date: 1941-02

Publisher: Ohio State University, College of Engineering

Citation: Ohio State Engineer, vol. 24, no. 3 (February, 1941), 1-5.

URI: <http://hdl.handle.net/1811/35760>

THE OHIO STATE ENGINEER



Vol. XXIV

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V. 24, NO. 3
FEBRUARY, 1941

No. 3

FIFTEEN CENTS

MEMBER OF THE ENGINEERING COLLEGE
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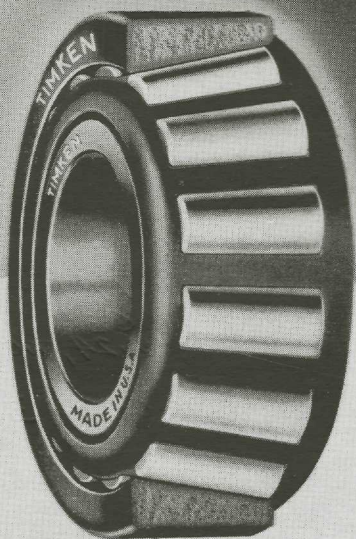
If you want to make the grade as an engineer when you leave college—

No engineer can be expected to know everything about the highly-specialized subject of anti-friction bearings, but every engineer *must* be familiar with the fundamentals of bearing design and application. The more you learn about bearings now the better an engineer you will be when you graduate.

The TIMKEN Tapered Roller Bearing is the most widely used of all anti-friction bearings because it best meets every requirement of industry and transportation in conquering friction, preventing wear, carrying radial, thrust and combined loads and holding moving parts constantly in alignment.

With more than 42 years of tapered roller bearing development to its credit plus unequalled engineering experience in applying bearings to every kind of machinery, The Timken Roller Bearing Company is in the best possible position to give you any bearing advice or assistance you may need now or in the future. We invite you to consult us at any time. Write for a copy of the Timken Reference Manual.

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Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steel and Carbon and Alloy Seamless Tubing; and TIMKEN Rock Bits.



THE ZEST OF WINTER BRINGS
the Flow of Health!

Winter brings both the enjoyment of sports with skates and skis and the healthful stimulation of a zestful season. Young and old find the countryside inviting—the fields blanketed with snow, trees sparkling with crystals.

No longer is the season regarded as too formidable for outdoor recreation. The advances of medical science and chemistry have minimized the former hazards of winter cold.

We can enjoy winter with confidence today largely because of chemistry's contribution to the preservation of good health. For the chemist is behind both

doctor and pharmacist who prescribe and dispense the drugs that safeguard us.

In this field Dow has long been active producing such products as:

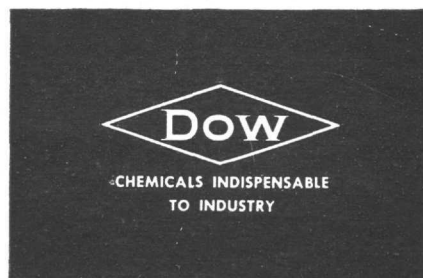
Acetyl Salicylic Acid and Acetphenetidin, both widely used by the medical profession to combat common colds, influenza and muscular distress—Chloroform, a common sedative agent in cough remedies—Epsom Salts that recreate the therapeutic values of England's Epsom waters—Glycine, Iodine, Carbolic Acid. These and more than thirty other pharmaceutical chemicals form a major

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Here is a field in which Dow is recognized as an outstanding leader—a field of chemistry which has an exceedingly important bearing on the maintenance of America's good health.

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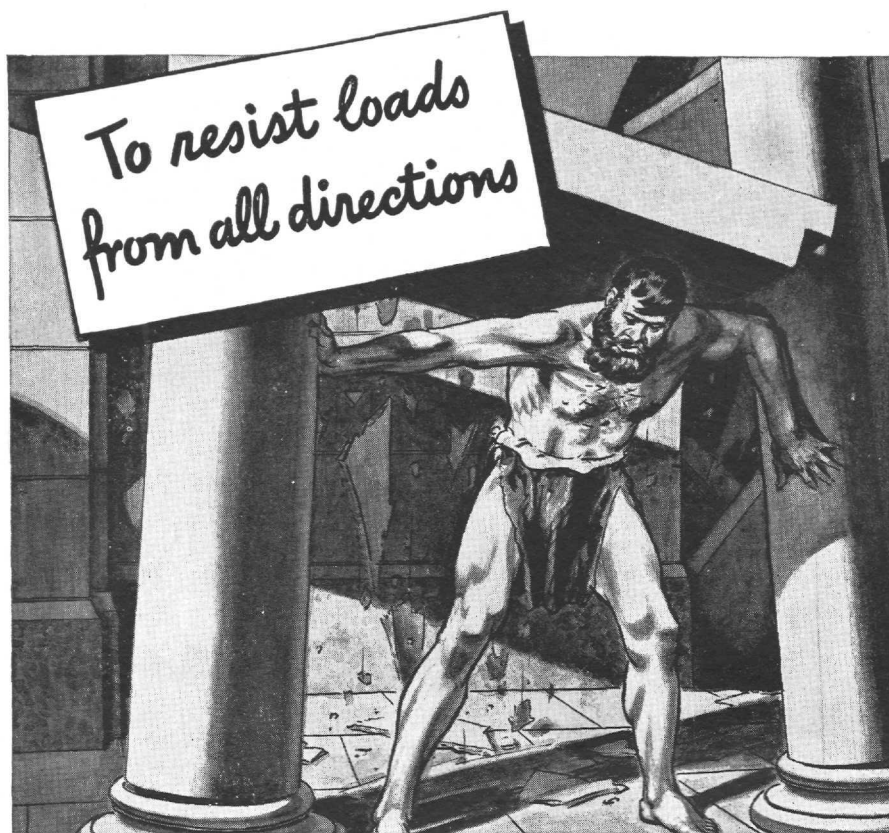
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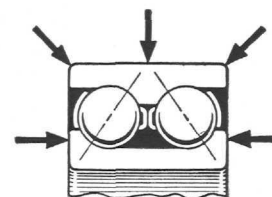
SPECIALISTS IN STUDENT PUBLICATIONS

32 WARREN ST. • UN. 4185 • COLUMBUS, OHIO



MODERN machine design, encountering combination loads, intensifies the need for truly accurate and permanent location of revolving parts. Yet sound and economical construction in many instances does not indicate the use of two or more bearings to resist both radial and thrust loads.

Designers and engineers meet this situation readily, effectively and economically by specifying the *ball* bearing. For the ball bearing—and only the ball bearing—will properly resist loads from all directions and in all combinations.



TWO JOBS — ONE BEARING

Big advantages in economy of manufacture and machine performance result from the use of the Angular Contact Double Row ball bearing which was originated by New Departure to resist both radial and thrust loads.

Today automobiles, trucks, tractors and machinery of many kinds depend upon bearings developed by New Departure from this original dual purpose "new departure."

ENGINEERING STUDENTS: For interesting brochure, "Better Bearings—Better Machinery," write to New Departure, Division of General Motors, Bristol, Connecticut.

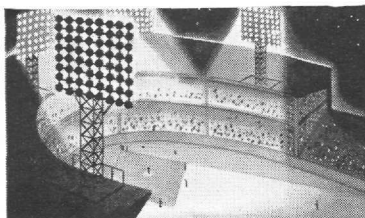
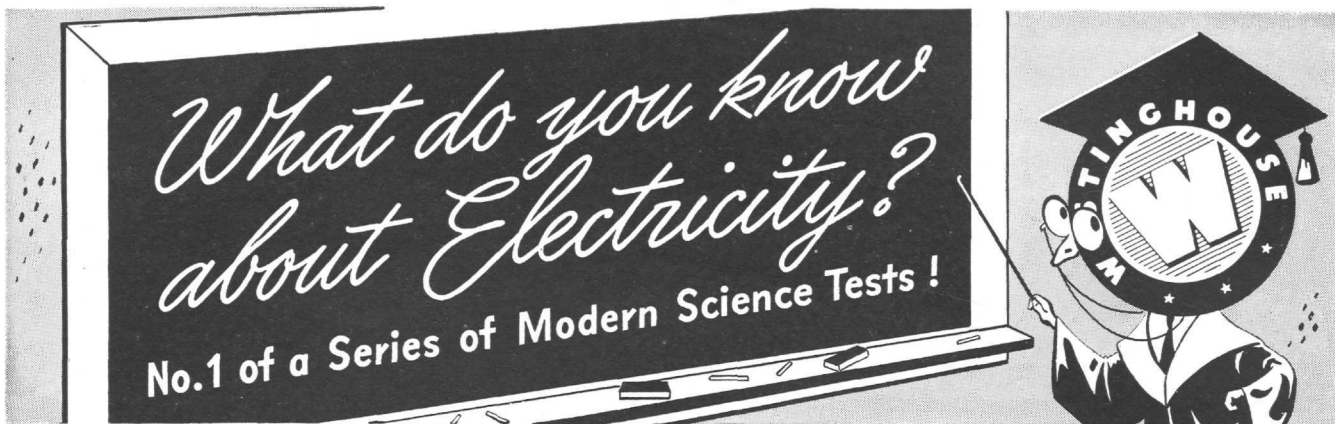
NEW DEPARTURE



BALL BEARINGS

Nothing Rolls Like a Ball

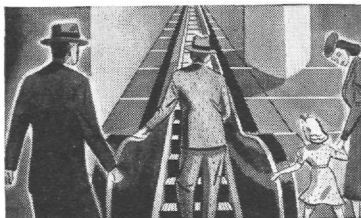




NIGHT BASEBALL

Six major league parks have been equipped by Westinghouse for night baseball. Each of these "8-tower" installations develops approximately the following amount of light:

1. 750,000 Candle power
2. 100,000,000 Candle power
3. 2,575,000 Candle power
4. 210,000,000 Candle power



LONGEST ELECTRIC STAIRWAY

Two years ago Westinghouse engineered and built the longest electric stairway ever used in this country. It was designed to:

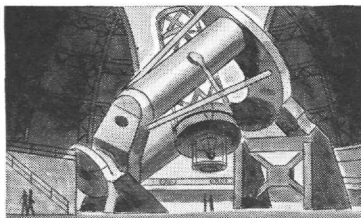
1. Save subway riders millions of steps.
2. Transport passengers to the top of the Empire State Building.
3. Carry shoppers from floor to floor in Macy's Department Store.
4. Transport World's Fair visitors to the inside of the Perisphere.



THE STERILAMP

Science has acclaimed the new Sterilamp developed by Westinghouse because:

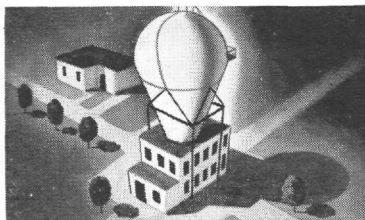
1. It provides normal daylight for classrooms, offices and factories.
2. It facilitates medical diagnosis of difficult pathological conditions.
3. It kills micro-organisms with ultraviolet radiation.
4. It extends the range of airway beacons.



THE LARGEST TELESCOPE

The 200-inch telescope for which Westinghouse designed and built the mounting is now being erected:

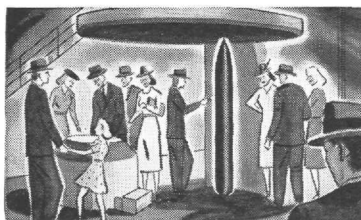
1. On Mt. Palomar, California.
2. On Bear Mountain, New York.
3. On Sankaty Head, Nantucket.
4. On a mountain in Aberdeen-Hoquiam, Washington.



THE ATOM SMASHER

The giant 90-ton atom smasher in the Westinghouse Research Laboratories is used principally for:

1. Testing the tensile strength of metal.
2. Measuring the impact of projectiles.
3. Conducting theoretical research in nuclear physics.
4. Providing high-voltage beam for deep X-raying.



THE TIME CAPSULE

The Westinghouse Time Capsule buried on the site of the New York World's Fair contains:

1. Various plans for universal peace.
2. A record of contemporary civilization.
3. Autographs of celebrities who visited the N. Y. World's Fair.
4. A list of the most important electrical inventions of the twentieth century.

Just a Word Before You Begin

Here's an opportunity to test your knowledge of electricity and measure your familiarity with important developments in the field of science.

Optional answers are provided for each of the six situations illustrated at the left. Your task is to select the one that's correct. So that there'll be no temptation to peek, the answers are printed below, upside down.

If you get four out of six correct your knowledge of electricity is average. Five out of six is good. If you chalk up a perfect score the class ought to vote you "most likely to succeed."

★ ANSWERS ★

2. The Time Capsule.....Ans.
3. The Atom SmasherAns.
1. Largest TelescopeAns.
3. The SterilampAns.
4. Longest Electric Stairway.....Ans.
4. Night Baseball.....Ans.



Westinghouse

*"The name that means
everything in electricity"*

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Published in the months of November, December, February, March, April, May and June by the students in the College of Engineering, The Ohio State University, Columbus, Ohio. Subscription price, 97 cents (tax 3 cents) per year for seven copies: Single copies, 15 cents each. Make checks and money orders payable to THE OHIO STATE ENGINEER.

Entered as second-class matter May 15, 1912, at the post office at Columbus, Ohio, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917. Authorized December 8, 1922.